

AMENDMENTS TO CLAIMS

The listing of the claims below replaces all previous listings of the claims.

Listing of the Claims:

1. (Currently amended) An apparatus for controlling the composition of gases within a container,

said container including a plurality of walls and an opening selected from the group consisting of at least one inlet, at least one outlet, or combinations thereof,

the apparatus including at least one sensor, at least one controller, and at least one gas permeable membrane to facilitate passage there through of different molecules at different rates,

said at least one gas permeable membrane defining a first region and a second region, said first region forming a storage compartment for holding cargo within said plurality of walls and said second region defining a substantially closed gas buffer region with an opening there through that includes a valve configured to selectively allow a flow of gas out of the gas buffer region, said opening being in communication with said gas buffer region.

wherein said at least one sensor is positioned within said second region and is configured to communicate with said at least one controller to enable control of a composition of gas within said first region.

2. (Cancelled).

3. (Previously presented) An apparatus according to claim 1, wherein said container comprises at least two openings selected from the group consisting of at least two inlets, at least two outlets, or combinations thereof.

4. (Previously presented) An apparatus according to claim 1, wherein said

membrane is selectively permeable.

5. (Cancelled).

6. (Currently amended) An apparatus according to claim 1, wherein said controller is adapted to open the valve when a concentration or volume of gas within said container reaches or falls to a specified level.

7. (Previously presented) An apparatus according to claim 1, wherein said container is a building.

8. (Previously presented) An apparatus according to claim 7 wherein said building is a cool store.

9. (Previously presented) An apparatus according to claim 1, said apparatus adapted for a transportation or shipping container, said container being substantially rectangular in shape and including two side walls, a roof, a floor, a rear wall and a front wall where the rear wall provides access into an interior of the container.

10. (Previously presented) An apparatus according to claim 1, wherein said combination of inlet and outlet provides a bi-directional flow means.

11. (Previously presented) An apparatus according to claim 1, wherein said container comprises at least one bi-directional flow means located at the rear of the container and at least one bi-directional flow means located at the front of the container, and each of said bi-directional flow means includes one valve.

12. (Previously presented) An apparatus according to claim 1, wherein said membrane is formed from a polymeric film, which is adapted for gas permeation.

13. (Previously presented) An apparatus according to claim 12, wherein said

polymeric film is more permeable to carbon dioxide gas than to oxygen gas.

14. (Previously presented) An apparatus according to claim 12, wherein said polymeric film is affixed to at least a portion of a base, a roof and two sidewalls of said container, said polymeric film dividing said container into said first and second regions, said first region located near the front of said container, and said second region being adapted as a gas buffer region located at the rear of said container and near a door end.

15. (Previously presented) An apparatus according to claim 12, wherein said polymeric film is located substantially near a rear portion of said container.

16. (Previously presented) An apparatus according to claim 12,

wherein said combination of inlet and outlet provides at least one bi-directional flow means, and

wherein said polymeric film provides said gas buffer region around said bi-directional flow means which is adapted to control the flow of gas into said gas buffer region and to control the flow of gas out of said gas buffer region both into said storage compartment and completely out of said container.

17. (Previously presented) An apparatus according to claim 1, wherein said membrane is adapted to facilitate flow of carbon dioxide gas from said first region of the container to said gas buffer region of the container.

18. (Previously presented) An apparatus according to claim 1, wherein said membrane is adapted to facilitate flow of oxygen gas from said gas buffer region of said container to said first region of said container.

19. (Previously presented) An apparatus according to claim 1, wherein said membrane is adapted to allow oxygen gas to flow through said membrane in a direction

opposite to a carbon dioxide gas flow.

20. (Previously presented) An apparatus according to claim 1, wherein said at least one sensor located within said container is adapted to sense concentrations, volumes or concentrations and volumes of carbon dioxide gas, oxygen gas or carbon dioxide and oxygen gases within said first region of said container.

21. (Previously presented) An apparatus according to claim 1, wherein said combination of inlet and outlet provides at least one bi-directional flow means, said bi-directional flow means located near a rear end of said container, said bi-directional flow means allowing gas to flow into said gas buffer region when in an open configuration.

22. (Previously presented) An apparatus according to claim 1, wherein said combination of inlet and outlet provides at least one bi-directional flow means, said bi-directional flow means located near a rear end of said container, said bi-directional flow means allowing gas to flow into said first region of said container when in an open configuration.

23. (Previously presented) An apparatus according to claim 1, wherein said combination of inlet and outlet provides at least one bi-directional flow means, said bi-directional flow means located near a front end of said container, said bi-directional flow means allowing gas to flow into said gas buffer region when in an open configuration.

24. (Previously presented) An apparatus according to claim 1, wherein said combination of inlet and outlet provides at least one bi-directional flow means, said bi-directional flow means located near a front end of said container, said bi-directional flow means allowing gas to flow into said first region of the container when in an open configuration.

25. (Currently amended) A container ~~having~~ comprising:

a plurality of walls and an opening selected from a group consisting of at least one inlet, at least one outlet, or combinations thereof, comprising an apparatus for controlling a composition of gases within the container,

said apparatus including at least one sensor, at least one controller, and at least one gas permeable membrane being adapted to facilitate passage there through of different molecules at different rates,

said at least one gas permeable membrane defining a first region and a second region, said first region forming a storage compartment for holding cargo within said plurality of walls and said second region defining a substantially closed gas buffer region with an opening there through that includes a valve configured to selectively allow a flow of gas out of the gas buffer region,

wherein said at least one sensor is positioned within said second region and is configured to communicate with said at least one controller to enable control of a composition of gas within said first region

~~said opening being in communication with said gas buffer region and comprising a valve that controls gas flow through said opening.~~

26. (Previously presented) A container according to claim 25, wherein said gas buffer region is located on the inside of said container.

27. (Previously presented) A container according to claim 25, wherein said gas buffer region is located on the outside of said container.